

IN THE SPECIFICATION

Please amend the specification on page 17, line 15 through page 18, line 3 as follows:

Generally, the photolithography tool 1004 forms a layer of photoresist on the wafer 1002.

A¹ The stepper 1006 controllably exposes the layer of photoresist to a light source through a mask or reticle to produce a desired pattern in the layer of photoresist. The etcher 1007 removes those portions of layers underlying the layer of photoresist that are exposed by the patterning produced by the mask to produce openings and/or holes in a desired pattern. The thin barrier metal layer is deposited by a barrier deposition tool 1008. The electroplate tool 1009 forms a layer or film of copper on the surface of the wafer 1002, filling the openings and/or holes. The metrology tool 1010 measures select parameters of the wafer 1002, such as physical characteristics and/or electrical properties. The measured physical characteristics may include thickness of the copper layer, feature sizes, depth of an etching process, etc. The measured electrical properties may include resistance, conductivity, voltage levels, etc. In some embodiments, the metrology tool 1010 may not be needed, as sufficient feedback information for controlling parameters of the tools 1004-1009 may be obtained from sensors within the tools 1004-1009.

Please amend the specification on page 22, line 24 through page 23, line 5 as follows:

A² The controller 1106 of the electroplate tool 1009 is coupled to the controller 1012 over the line 1019. This connection allows the controller 1012 to deliver signals that instruct the controller 1106 to vary some or all of the parameters discussed above to alter the thickness of the copper layer 640 based on data received from the metrology tool 1010. For example, if the metrology tool 1010 detects that the copper layer 640 is too thin, then the controller 1012

delivers a control signal to the controller 1106, instructing the controller 1106 to alter one or more of its parameters to increase the thickness of the copper layer 640.

Please amend the specification on page 25, line 18-25 as follows:

A³ The present invention may be employed on a lot-by-lot basis and/or on a wafer-by-wafer basis. In general, the more frequent the measurements, the more uniform and accurate will be the electroplate process performed by the electroplate tool 1009. That is, the thickness of the copper layer 640 need not be measured on each wafer 1002, but rather, a previous measurement may be used by the controller 1012 to control the parameters of the electroplate tool 1009 to produce the desired thickness of the copper layer 640. The number of wafers processed between measurements is a matter of design discretion, which depends substantially on the details of the particular embodiment.
